REMARKS/ARGUMENTS

By this Amendment, claims 1, 10, 12, 15 and 20 are amended. Claims 1-22 are pending.

Favorable reconsideration is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1-22 stand rejected under 35 U.S.C. § 103(a) as allegedly being obvious over De Gasparis et al., "Automated Electrorotation: Dielectric Characterization of Living Cells by Real-time Motion Estimation." Meas. Sci. Technol. 9 (1998) 518-529 in view of U.S. Patent No. 7,161,741 to Schaack. This rejection is respectfully traversed.

Base claims 1, 15 and 20 are amended to emphasize a significant distinction between the claimed invention and the proposed combination of reference teachings. The claims now emphasize **controlled** movement of the object to adopt at least two different **predetermined** orientations from which at least two different data sets are generated. Support for the claim amendments is apparent in the specification at, e.g., page 10, last paragraph:

> In the context of the current invention these movements of the micro object – e. g. a live suspended biological cell – are preferably realized by time dependent ac electric fields and negative dielectrophoretic forces. They are preferably generated in fluidic micro-chips containing DFC's that are customized to **achieve specific movements of the micro object in three dimensional space**. In this context we have implemented and substantiated that a DFC comprising eight micro electrodes forming a closed field cage, **provides sufficient stability and control** to achieve these movements. [Emphasis added.]

page 14, second paragraph:

> Continuous imaging of **controlled** changes in position of the object by rotating it around at least one horizontal axis and one vertical axis is very useful for a reduction of the calculation effort required for a three dimensional imaging. [Emphasis added.]

page 17, third paragraph:

> According to a preferred embodiment of the invention, the control circuit contains a switching box being adapted for predetermined switching the rotation axis of the object. The switching box allows **predetermined manipulations of the object** as well as the implementation of a time trigger. [Emphasis added.]

and the paragraph bridging pages 24-25:

> The axis of the rotation was **selected** by a **controlled** modulation of amplitudes of the upper and lower electrode plane of the field cage. [Emphasis added.]

The De Gasparis et al. reference discloses an automated method of electro-rotation measurements. Particles, like e.g., living biological cells, are positioned in a planar electrical field cage (Figure 1) in combination with a laser tweezer. Images of the rotating particles are collected (Figure 2) with the aim of estimating the numbers of rotations at various frequencies. See De Gasperis et al. at the sentence bridging the columns of page 519:

> The goal of a ROT experiment is to determine the cell angular velocity as rapidly and accurately as possible for each applied field frequency so that the cell dielectric properties can be derived.

and page 519, right column, third paragraph:

> [A]n automated system must be able to determine the cell rotational rate based on a sequence of images (or frames) having these types of characteristics....

Thus, the De Gasperis et al. reference discloses electro-rotation measurements, wherein the rotation is measured, but not controlled such that the object being rotated adopts at least two different predetermined orientations. The significance of the distinction is suggested by the present specification at page 11, second paragraph:

> Thus, the invention is based on this surprising and unexpected result of the inventors according to which micro-objects suspended in a fluid can be manipulated with electric field forces with a precision sufficient for an evaluation of the object image from the intermediate images. The precision of rotation even was obtained despite asymmetry and/or gravitation effects. Thus, it has been found that the object can be positioned stably in x-, y- and z-directions. It can be rotated around a defined axis and oriented by addressing the electrodes with a suited signal characterized by time dependent amplitude, frequency and phase.

The secondary reference, Schaack, discloses the collection of images using an endoscope (see abstract, last sentence). Schaack discloses various concepts of optical imaging and calibrating the collected images with an endoscope. The endoscope can be moved in a body under investigation, but Schaack does not teach controlled movement of the body to adopt at least two different predetermined orientations from which at least two different data sets are generated by the endoscope.

Thus, Schaack does not remedy the failure of De Gasperis et al. to disclose **controlled** movement of the object to adopt at least two different **predetermined** orientations from which at least two different data sets are generated.

Claim 12 further distinguishes over the proposed combination of reference teachings by specifying additional imaging steps that are not suggested by the proposed combination of

reference teachings. Contrary to the Office Action at page 6, last paragraph, "modifying the optical design of the projection lens" is not a step performed on data sets, as required by the evaluating step of base claim 1. Claim 12 is amended to emphasize this distinction and for improved readability.

Moreover, a person having ordinary skill in the art of three dimensional microscopic imaging at the time of the invention would not have been motivated with a reasonable expectation of success to consult, combine or modify the teachings of De Gasperis et al., which relate to measuring rotational spectra and the teachings of Schaack, which relate to optical endoscopy. Each reference is from a technical field completely different from that of the present invention and completely different from that of the other reference. Neither reference addresses any problem addressed by the present invention such that it would have logically commended itself to the attention of the person having ordinary skill in the art. Thus, the references are improperly applied, non-analogous art. See, e.g., *In re Clay*, 966 F.2d 656, 658-59, 23 USPQ2d 1058, 1060-61 (Fed. Cir. 1992).

Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 1-22 are respectfully requested.

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
COHEN & POKOTILOW, LTD.

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By_____

David M. Tener
Registration No. 37,054
Customer No. 03000
(215) 567-2010
Attorneys for Applicants

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